

**Abstract****Lithographic Apparatus, Device Manufacturing Method, and  
Device Manufactured Thereby.**

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A lithographic projection apparatus includes a radiation system for providing a projection beam of primary radiation, a support structure for supporting patterning structure, the patterning structure serving to pattern the projection beam according to a  
10 desired pattern, a substrate table for holding a substrate, a projection system for projecting the patterned beam onto a target portion of the substrate, a radiation sensor which is moveable in a path traversed by the projection beam, for receiving primary radiation out of the projection beam, the sensor including a radiation-sensitive material which converts incident primary radiation into secondary radiation, a radiation detector capable of  
15 detecting said secondary radiation emerging from said material, and a filter material for preventing secondary radiation from traveling in a direction away from the radiation detector.